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DESIGN

ARTHUR LYMAN TUCKERMAN

New York
WM. T. COMSTOCK
1891

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DESIGN.

There are now so many industries, the products of which depend upon the designer's art, that the question of learning how to design has become of wide interest. There is a large field for the exercise of the art in house decoration alone, which calls for designers in furniture, china, glass and household utensils of all This is not the highest kind sorts. of art, but it is, perhaps, the one most encouraged by the public, whether the motive be genuine love of the beautiful, or whether it take its root in less noble sentiments, such as personal vanity and pride.

The fact that there is money in it gives the subject an importance which it would be hopeless to expect were the mainspring any less potent. Until the history of art and its value

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to man be made an intrinsic feature of the school curriculum, it is unwise to expect the public at large to care for art, or to wonder that those who have not made a special study of it should be anything but dilettanti, possessing that little store of knowledge which is proverbially dangerous.

It is supposed by many that a designer, like a musician or a poet, is born, not made. It is nevertheless a fact that the compositions of untrained artists nearly always reveal certain weaknesses which are caused by their work not having been thoroughly and properly considered beforehand.

The getting of a good start is a difficulty experienced in almost any enterprise. Those who have watched the student at work will appreciate this in the matter of design, for the

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DESIGN.

beginner invariably flounders into ornament and attempts originality before he is capable of realizing the commonplace.

A designer usually acquires the knowledge he requires by one of two methods; either by going into the studio or workshop and picking up his information by watching others at work, or else by following a course in a school of art. The piecemeal character of the learning acquired by the first method is not likely to result in a good theoretical grounding. Much may be learned at a school, not only from the instructor's teachings, provided he be intelligent, but by the comparison of one student's work with others' and by the stimulus created by many working together. This system of instruction is found successful in the teaching of architecture at the Ecole des

Beaux Arts, in Paris, where the students who have been longest in the studio relieve their professor from the task of instructing any but the more advanced.

For those who cannot avail themselves of the advantage of either school or workshop, there are books on the subject which illustrate all the wonders of design. It is difficult, however, to find any guide, simple enough to reach the beginner, which condescends to the minuteness of explanation which may be expected from a teacher.

In the endeavour to supply such a want, an attempt is made in the following pages to form a schedule or programme of the proper steps to follow in composing. There might appear to be some danger in this of reducing an imaginative art to too close a routine—of

DESIGN.

driving Pegasus over the common highway-were it not for the fact that the order of these steps is very obviously defined by the dictates of That the object common sense. should be properly constructed before it is decorated, that the general mass should be composed before the detail of the parts is considered, are axioms which any artist will concede, and therefore this process of working by method should be considered no more of a restraint upon genius than the necessity of learning to spell could be considered an imposition upon an embryo author.

Preliminary enquiries before commencing to design. (These questions may be asked of each of the parts as well as of the whole.)

What is the definition of the subject?

What is its definition as obtained from dictionaries and other sources?

What is its purpose?

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Whether useful, ornamental (i. s., to delight the eye), emblematic.

What are the parts?

If not a regularly defined object, a schedule of parts may be made.

What are the functions of the several parts?

How may the greatest degree of efficiency be obtained for each part?

What are the conditions of use, place and surroundings?

What are the dimensions to be?

What traditions, conventions are attached to it?

In what spirit shall it be conceived?

Whether it is to receive a treatment indicative of

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grace, massiveness, vigor, elegance or other attribute of a sentimental nature.

When these questions have been satisfactorily answered, it becomes necessary to consider and come to a decision upon the following points: There must week. Construction.

Selection of materials as regards strength, durability and economy; in making, when completed and in Appropriate construction for each material. What are the best known constructional expedients (vertical and horizontal) or processes of manufacture? Proportion.

Scale with surroundings; scale of parts. Form, beauty of outline. Shape, considered in the sense of the representation of any known figure or image.

Decoration.

Ornament, color, material as regards beauty. Style.

Whether in a manner peculiar to a special race of people or period. Whether independent of such. If the former, unity is requisite. If the latter, there should be no close approach. History of art.

Representation.

Drawings, plans, sections, elevations, perspectives models. Scale of dimensions.

The foregoing programme may not be a perfect one; it may be 1 . 10 harmond

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susceptible of being simplified or added to in a great degree; nor is its aim to reduce everything in composition to a set rule. It is an attempt at presenting, in so many words, the thoughts which rapidly pass through a designer's before beginning his work. that he deliberately asks himself each of the questions set down, but unconsciously he decides each point from habit or taste. Sometimes he fails to weigh some one point sufficiently, and ultimately finds his work weak in that particular place.

It is important to note at the beginning that in order to be successful in composing anything, it is necessary to first clearly understand what are the uses or purposes of the whole; and secondly, what are the individual functions of the several parts, and this quite independently

of the ornamental character to be assigned to it. It is the utilitarian or practical side to be considered and digested before the attribute of beauty. It would be of no avail to make a beautiful cup unless it could to the conhold liquid, or a beautiful lamp unless it could give light. the utilitarian question has been answered, come the further considerations of material, construction, size, shape, ornament, colour, position and surroundings, method of execution, method of representation, homogeneity or style, and under each of these general heads minor divisions, such as scale, durability and economy. From this it may be inferred that observation, careful and reasoning in character, is more requisite at the start than ingenuity, and that taste is not so much the gift of individuals as the result of a

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studious consideration of the sev eral conditions pertaining to each case.

Some simple object, such as a vase, will serve as an illustration. dictionary defines a vase as "an ornamental vessel." There are various vessels—a dish, a cup, a pitcher each differing in its use. A dish is a shallow receptacle. A cup must have a thin brim for the lips and be easily lifted. A pitcher must have a mouth to pour out its contents. vase differs from each of these. generally accepted it must be deeper than a dish. It is not to be used to drink out of, and is more a receptacle than a vehicle for the transmission of liquids. If filled at all, it is generally with either water for cut flowers or earth for growing plants.

The whole is composed of the body or bowl, the socket upon which it rests, and in some cases handles

to lift it. An investigation of the functions of each of these parts shows that the bowl must be arranged to hold a given measure of contents. The socket must support the bowl adequately, its beauty depending on the exactness with which it does this, neither insufficiently nor more than sufficiently. handles must be such as to show that they are just what are needed to carry the weight, not too slender nor so massive as to be clumsy, and must be arranged so as to show clearly their grip or hold upon the body of the vase.

It is evident that the place and surroundings of the vase will materially affect its design. Whether it is to be used indoors or out, whether it is to stand in a public building or a private house, whether it is to ornament a palace or a park, are

questions the answers to which will make very great differences in the selection of material and form, and will determine its dimensions, and help to decide the spirit in which it is to be conceived; that is to say, whether it is to be massive, elegant, light and airy, or simple and durable.

The material having been chosen, it becomes necessary to consider how it may best be put together, what processes of construction or manufacture are the best to make a solid, well-balanced and durable vessel. The shaping or proportion of the vase is all-important in the determination of its beauty or ugliness, and unless accomplished satisfactorily will never be atoned for by any amount of decorative ornament and color, which should be the last considerations in its composition.

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Some eminent person has recommended every one to fill up his leisure moments in enlarging his vocabulary. Similarly, a designer cannot fail to find advantage in occasionally reviewing the materials at his command, so that he may not fall into a rut; but, on the contrary, stimulate his imagination by consideration of what unlimited variety there is to be found in the use of the products of the earth.

Stone, wood, metals, ivory, bone, variety of materials. tortoise shell, glass, leather, woven stuffs, pottery, china, gutta percha, wax, cork, mother-of-pearl, paint and varnish. These are some of the materials most constantly used, and there may be many others worth considering before deciding on which par-

dicht uses all These

ticular one or ones are to be used in a design.

Special characteristics.

Each of the above named has its special characteristics in weight, resistance, organic structure, strata or grain, nature of fracture, hardness, softness, malleability, brittleness, transparence, translucence, flexibility, etc. Most people are familiar with the characteristics of common materials, but it may not be amiss for a designer to run them over in his mind each time; he will then be lead to a further consideration of the treatment each is susceptible of receiving, such as dressing, chiseling, planing, polishing, modeling, hammering.

Treatment.

Condemned or count

The next step will be the noting of the probable manner in which materials will be affected in use or Effects of time by exposure, and the providing against bad effects by such means as

may seem best calculated to attain such a result. A stone, for example, which is to be exposed to the weather should receive a wash to cause rain water to run off quickly, water to drop to the ground without

Simi- Stamwalls and an undercutting to force the larly, wood may be preserved from rot by providing a circulation of air Provision to be made against for the ends of timbers, and from evil effects. warping by tonguing and grooving or paneling. Again, in metal work, there are questions of expansion and contraction, disintegration and rust which cannot be unnoticed.

On the other hand, there are good Good effects produced by effects to be anticipated—the hardening of stone, the mellow tint which exposure gives to copper and bronze, the effects of baking upon pottery and china and enamels, the season-

time or other-

ru Paris,

ing of timber, the fading of violent colour in tapestries.

Special capacity of materials.

To the list of special characteristics may be added the special uses for which each material is best suited, whether to sustain, enclose, bridge, hang, swing, cut, contain, render waterproof or fireproof, conduct heat or the contrary. A comparison of stone, brick, wood and metal will readily illustrate this.

Selection.

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The above considerations are the preliminaries necessary to the selection of not only what materials are apparently best suited to the work in hand, but of those which will endure and therefore be the most economical in the long run.

There are, of course, some works of a temporary nature which do not demand great endurance and in which cheapness is the main consideration; but there are few such which

possess artistic character or really worth doing.

From another point of view, the beauty of material is of importance Beauty of material. in many designs. A handsome mahogany table needs no ornament; the natural grain of oak is better than marquetry; a plain stone is much more beautiful than one covered with cheap carving; a building of selected brick is pleasanter to look at than one in which mean decorations are obtained by painted galvanized iron. So much has been written upon the beauties of coloured marbles, the veining in marble slabs, the rich tones of Japanese bronze, that the subject has been well aired, and nowadays a good panel is respected and marble work is almost overdone.

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much souls wad relief.

The study of materials should be followed by an inquiry into the methods by which they may be brought into use in the most effective manner.

This would appear, on first thoughts, to be such an elaborate science that the student might be discouraged at the prospect of such lengthy investigations. The usual methods are not, however, so numerous or so complicated but that a designer may acquire sufficient general knowledge of the subject in a short time to enable him to accomplish practically what he wishes.

There are, no doubt, feats of architecture and engineering which require elaborate calculation and very precise knowlege of building. These are, however, the exception

rather than the rule, and in such cases a designer is often justified in getting his framework laid out for him by an expert. In the every-day Every-day prac use of masonry, wood and metals, there are certain facts which have been ascertained by experience, a knowledge of which, added to a careful consideration of each particular case and the exercise of common sense and good judgment, will serve the designer's purpose in nine cases out of ten.

It would not be possible to include a treatise on construction in these pages, nor is there any need for so doing, as there are many excellent System in study. works on the subject to be had in all libraries; the object of this book being principally to determine, if possible, the order in which the designer should pursue his investigations.

Surle not go into del study of construction

Construction or process of

"construction" The word manufacture. usually applied to the putting together of stone, wood and metals. In the case of other materials where its use would be inappropriate, one may substitute the expression "process of manufacture," which will probably be found to be comprehensive, covering porcelains, potteries, enamels, woven stuffs, etc.

Best methods.

use hout-

The point for the designer to bear in mind constantly is the necessity of his understanding what is actually required in each case to make a design practical, independently of the quality of beauty with which he intends to invest it, and in order to get this information he must look into the various methods in use and choose the best.

Much can be learned by watching the mason and carpenter at work, by going into factories and studying

the action of the loom and the potter's wheel; and though many things made for sale nowadays are mean and cheap, it is usually not difficult to perceive where the deficiencies lie and to avoid them in composing.

The importance of construction Solidity not the should be self-evident; it is the science of putting things together, not only so that they may be strong and durable, but also that this may be done without violating such conditions as may be imposed by economy, lack of space, necessity for lightness, etc. A bridge must be designed to resist the flow of the waters and sustain its moving load, whether it be possible or not to give the voussoirs a pleasing curve. chair is useless, in spite of rich upholstery and gilded legs, unless it be strong enough to bear heavy people

and light enough to be portable; and who, for example, would care in a storm at sea whether the ship's bows were sharp and graceful and the cabin decorations in pure Louis XVI, if he were not sure that there were a stout keel under him and sturdy ribs of oak fashioned to withstand the pounding of the waves?

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PROPORTION.

"Materials" and "Construction" are naturally followed by the consideration of the subject of Proportion.

It is indispensable to any well-First requisite of good proproportioned object that it should adequately fulfill the uses for which it is destined; or, in other words, no object can be well proportioned if it fail in the accomplishment of the purpose for which it is intended. Sometimes this purpose, in cases, for instance, of commemorative, em-Commemorative designs. blematic or symbolic work, may not be easy to define, but this does not affect the principle.

In a broad sense all objects de-Convenience. signed by man for the use of man should of necessity be convenient to him, and no thing, no matter how beautiful in form or decoration,

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which is unsuited to its purpose, can ton anist to ton a natiafactory work of met

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On the other hand, utility alone is often insufficient; for, evidently, many things might be made to serve their purpose without being well proportioned, Indeed, mere utility can be obtained in most cases without any kind of assistance from art,

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To be in good proportion, thereform, an object must first fulfill the purposes for which it is intended; and if this be attained, the mainder of its treatment will depend chiefly upon sentimental considerations, in which utility is exceeded in the attempt to invest the design with such qualities as dignity, grace, temelatency in pleinness, solidly or lightness, as the

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This particular quality or attribute must be selected by the designer

case may call for,

PROPORTION.

according to his sense of fitness, and be carried out consistently through. out the design, as it would evidently be false art to have, for instance, one portion of it majestic and another of a trivial character.

As to what extent it is wise to go beyond the utilitarian limits, is generally a matter for the designer to decide. In many cases it will be found possible to find a pleasing form without materially affecting any of the conditions essential to attain the first requisite; for example, a vase, Art exceeding the bounds of beautiful in its outline, may contain utility. the same quantity of liquid as an ugly one. To build a spire in proportion with a church tower may, on the contrary, require the piling up of immense masses of masonry for, apparently, no useful purpose. If, however, this purpose be to please the eye, it may be eminently justifiable.

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PROPORTION.

The pleasing of the eye is, in fact, another manner of expressing what Fact and fancy. is meant by proportion. In pondering upon such matters, one is led to try to establish some distinction between what is fact and what is fancy, to find out, if possible, whether there are any positive axioms to be established by logic, or whether the subject is to be abandoned to individual caprice.

Observation and comparison.

It is clear that the eye judges, that is to say, is satisfied or dissatified, according to the degree of its training, according to the opportunities it has had for observation and comparison. From this it might be inferred that the best educated persons should be the ones to say, with the greatest show of reason, what things are well and what are badly proportioned, were it not for the possibility that this very knowledge may

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be so handicapped by the traditions or conventions attached to so many objects, by the good or bad light in which they are held by customary or popular estimation, that it makes the task of impartial discrimination far from easy.

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It is also difficult to establish a Prejudice. standard for comparison, free from prejudice or from prevailing ideas which may not have been founded upon reason. The men of one country cannot eat what those of another find highly delectable, and if this be true of the palate, why not of the eye? In each case this is the result of mere habit or early association. People will pay fabulous prices now for works of art which nobody could see any beauty in a few years ago. Men pity the savages who adorn themselves with beads and paint, and yet they

PROPORTION.

Consideration

themselves wear hats in the shape of abbreviated stove-pipes, while ladies attach trains to their dresses which sweep the dirt of the floor and get under people's feet; a condition of things which can only be accounted for by the supposition that the proportions of the hat and train are agreeable to the eyes of the masses.

What looks well has guided the artist in every age. He has generally done his work according to what pleased him and his generation, and yet may have failed to gratify the succeeding one.

Success by pa tient study. This has been caused sometimes by his being too readily pleased, and lacking the patience to study out his design. The Greeks possessed this quality of patience in an eminent degree; they understood the beauty of the line and did not content themselves, for instance, with

PROPORTION.

mouldings drawn with the compass, as the Romans did, but gave every outline a spirited or graceful form, resulting from their having made a careful comparison of all known shapes.

Whether the Greeks were right in preferring the contour of an egg to that of a sphere, may be a matter of opinion; but that they were successful in proportioning the mass of an object to its surroundings, and the details of the parts to the whole, is undoubtedly admitted, and that this is the proper order in which these questions should be taken up, is also apparent.

En résumé, a composer should first assure himself that his design can be properly constructed or manufactured. In the next place he must be satisfied that it is capable of fulfilling the specific use for which it is Résumé.

PROPORTION.

intended, in a satisfactory manner. He must determine its dimensions in reference to its surroundings, and proportion the mass agreeably according to such character as he has determined to invest it with, before proceeding to proportion the several parts or details harmoniously. If he be not sure that his eye is guiding him correctly, he will do well to study attentively such works of art as refined minds have, at all times, agreed in recognizing as being well proportioned, making these studies a standard for the comparison of his own designs.

It should be borne in mind that beauty of form and outline are so far more valuable than the richest decorations applied to objects indifferently proportioned, that, in many cases, good construction coupled with excellence of form are sufficient

PROPORTION.

of themselves to make a design meritorious without any additional aid from ornament.

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DECORATION.

The importance of a good outline in proportioning an object is evident. Similarly, the line is the alpha of decoration, and in many cases the omega.

The horizon at sea, the jagged edge of a mountain range, are examples which nature affords of the wide latitude in its use. In nearly all compositions there are divisions to be marked, features to be emphasized, contrasts of narrow borders and broad spaces, in which a judicious use of the line is essential.

When the material does not admit of the line being marked by pen or chisel, moldings are brought into use, because by the degree of their projection they cause lines of shadow of greater or less depth. We have seen other uses for them (under

"Materials" page 17), but in many objects such as plates, vases and various pieces of furniture, they simply serve this end.

of sail blue

All decorations may be placed Sculpture and painting the more or less under the headings of Sculpture or Painting, if the former be understood to include all relief and incision, whether produced by carving, repoussé work or other process, and the latter to cover all forms of colour in whatever way they may Gradation of be produced. There is also an order or grade in the relative importance of their different forms which suggests itself naturally: the use of patterns. geometrical or otherwise, is apparently the most elementary manner of decorating; next come conventionalized vegetable and animal forms, and highest in the list the representation of the human figure.

decoration.

Level French

In decorating any object there are Ornament.

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Vincence color

several considerations of importance to be decided before taking the first step: the ornamental possibilities of the whole or each part, the application of decorative devices not suggested by the construction or component parts, the appropriate places to apply such devices, the consideration of what are the requisites for good ornament per se.

What is meant by the ornamental possibilities of a whole will be best explained by a few examples. A clock, a vase, a monument may be of themselves ornaments to their surroundings, considered in their entirety.

Things ornamental in themselves.

As regards the parts, a column in a building may be an ornament as well as a support; the handle of a teapot may be an ornamental feature whether it be ornamented or not.

Extraneous ornament. When an object has been carefully

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DECORATION.

designed, each part being made ornamental, it is susceptible of receiving still another kind of decoration, by the application of ornamental devices which no feature of the composition has suggested. When a column is used, the capital is naturally suggested by the design as a suitable subject for ornament, but there is nothing to suggest the placing of scrolls, garlands, medallions, etc., upon blank spaces, except taste or the lack of it.

applied a chil

In regard to the selection of the Where placed appropriate places for the application of such ornament, the use of which is often questionable, it will be found that it is least objectionable when it does not interfere with the main lines of the design, and when contrasted with sufficient blank space to throw its richness into relief.

This law of contrasts belongs to Contrasts.

window

all degrees of design, and is the one most constantly to be impressed upon the student. Contrasts of strength and elegance, narrow and wide spaces, things thick and thin, contrasts of color, of simplicity and richness underlie the success of most decorative compositions. It is the object of this book to set the student thinking upon the truths of art rather than to go into details, and he must not, therefore, consider that because such a maxim as this is stated briefly that it is unimportant. If the question of the suitability

What makes good ornament.

band in

If the question of the suitability of ornament for certain parts of his design has been decided by the designer, he must next endeavour to have it distinct and clear, and to have the skeleton line which it follows as graceful as possible (as in a scroll, for example), recurring forms being rendered accurately.

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What has been said in regard to Importance of the consistency of sentiment as regards the composition as a whole, is equally applicable to ornament, which should preserve its characteristics throughout. If it aim at an effect of lightness, elegance, solidity, airiness, grace, dignity or other attribute, the several parts should be consistent throughout.

The beginner often falls into the errors of making his ornament too meagre or too hard and mechanical, A garland, for instance, should not look like a bolster on the one hand or a rope on the other. The best way to learn is assuredly to examine good examples, such as are afforded by the friezes from the temples of ancient Rome.

There is a certain nicety of discrimination in the treatment of ornament, to ensure its appropriateness

under varied conditions, which often determines the success of a piece of work. As an example, an arabesque in a vertical panel has but the one Decoration appoint of rest at the bottom (except different for conventional attachments along the main line or backbone), and therefore the stem should have a solid footing; on the other hand, a scroll, in a horizontal frieze, has numerous points of rest and should be treated accordingly. Vertical flutings are agreeable to the eye in the decoration of a column; but spiral lines, such as the ribbands on the columns of Trajan and Antoninus, seldom produce a satisfactory effect.

The figure in ornament.

things.

The study of the human figure is of such deep interest, and the endless variety that is possible in its use render it the noblest form of ornament, and make all others seem

tame in comparison. It must be very well done, however, to be enjoyable, and the student will find it a life-long study. In using human forms as decorations, the treatment should be purely conventional; a frieze composed of children holding wreaths may be in good taste if, for instance, the whole be carved in one material, but it is obviously false art to make a pier glass in which the mirror is pivoted in the fists of gilt bronze cupids, or to put an electric light in the torch of the statue of Liberty.

As to the question of the utility of Utility. ornament, it is not defensible from that point of view; man can live without it, as he can live without art of any kind. When, however, he can afford to cultivate the arts and does not, he is a barbarian.

Unless ornament is good, though

it is much better to have none at all;

at the same time, the best of ornament cannot redeem bad construction Breadth of or bad proportion. It is also easy to fall into the error of overdoing the ornament in a design, so that the main lines are confused or lost by its In most cases a subject treated broadly, but simply, will be more successful than a cramped effort on which rich decorations are lavished. No decorations are an equivalent for lack of space, no orna-

> [In regard to this question of space, it may not be an inapt illustration to compare a very plain, well proportioned house covering two lots with a magnificently decorated house on a single lot. In the hallways the difference would be very perceptible.]

ment can atone for mean lines.

Laws of colour. It is treading on dangerous ground to attempt to guide the student in the use of colour. In such works as the "Grammar of Ornament" he may find a systematic arrangement of col-

In retained of mouses

treatment and

detail.

oured decorations, better shown by plates than description. In the study of Greek vases, Byzantine mosaics, the enameled terra cotta of the della Robbias, tapestries of good periods, finally of decorative paintings of the highest type, such as those by Paolo Veronese, he cannot fail to find some clue to what is good or what is bad. The beginner will be perplexed to find that many beautiful things, cited as examples of excellence of colour, owe much of their value to the mellowness of age, and even to decay; are beautiful in one light, and dull and uninteresting in another. He will be attracted by the beautiful colouring of Oriental products, and wonder why, as a European, or descendant of Europeans, he cannot work in the spirit of a different race; he will be disturbed by vulgar fashions, and frightened by the bad taste, which is

the portion of the greater number; but if he cling to the great examples and work simply and logically, he will find his way out of these difficulties.

There is such a vast quantity of bad decoration to be seen on all sides, decoration which fails from its misapplication or from its being overdone, that it is questionable whether, in many cases, it is not best to be content with good construction and good proportion.

Quality versus quantity.

At all events, it is undoubtedly true that a limited quantity of decoration, if very excellent of its kind, will be of far greater value than profuse and mediocre ornament, a lesson which the Greeks first taught in their decoration of the Parthenon.

In France, where the arts are encouraged to a greater degree than elsewhere, painters are commissioned

to execute great friezes in the public buildings, and the value of sculpture is so well understood that bas-reliefs or statues often constitute the sole decoration of an edifice. In America large sums are paid for pictures, but not yet for decorative painting of the higher class; a great deal of money is expended on ornamentation more or less well done, but sculpture is still at a very low ebb. Not but that there are excellent sculptors at hand, but because the decorative quality of a good statue is not yet realized, nor the fact that a fine bas-relief on a blank wall is worth more than any amount of trivial ornament. Until these things are appreciated the unfortunate sculptors must eat their hearts out in their studios, and sicken at the sight of wealth expended on cheap stained glass, on plush and on brass lamps, on galvanized iron cor-

016

nices, and the hundred and one miserable, trashy productions, which, if all gathered together throughout the breadth of the land, would not be worth one cupid by Donatello, or a broken metope from the Elgin marbles.

STYLE.

It is evidently a mistake for a designer to go on working in special styles. To work in the spirit of the great periods, to use classic detail "by adoption tried," is legitimate enough, but to continue copying the works of a past age means the stagnation of art.

It is well that he should become Archæologyand acquainted with the history of art confounded. and the divisions in history called styles, if it were only to avoid doing work too closely approaching any one style without actually having its character. It is stupid to make Louis Quinze furniture in our day, but worse still to make something which just misses it. Similarly in architecture there can be no advance as long as designers continue to copy. The architects of the Italian Renais-

sance studied the classic remains of ancient Rome and composed in the spirit in which they were conceived, but never thought of copying any particular building, and their art was consequently new. Archæology is a pitfall for many an artist; being delighted with the beauty of a work of art he is prompted to reproduce it, and by so doing merely makes it common.

This question of styles, a knowledge of which is desirable before attempting any decorative work, would seem an alarming drawback to the immediate practice of design, were it not for the fact that all the great styles of art in Europe emanated from the same source, and that therefore a knowledge of Classic art will go a long way toward simplifying the task and make the differences between it and the other styles read-

STYLE.

ily comprehensible. In other words, a standard will have been obtained for guidance and comparison.

For students who would like a hint as to the best way of getting some idea of the different styles, the following list may be of use:

For Egypt and Assyria.

Perrot & Chipiez's books.

For Greece.

Stewart & Revett's work and photographs of Athens.

Rome.

Vignola's "Five Orders." Photographs of ancient Rome, Pompeii, Baalbek and Roman remains in Verona, Nimes, Arles, etc.

Byzantine Art.

"Syria" by de Vogue. Views of St. Sophia of Constantinople, St. Mark's of Venice and St. Vitale at Ravenna,

Romanesque and Gothic.

Dictionaire de l'Architecture, by Viollet-le-Duc.

Renaissance.

"Edifices de Rome Moderne," by Letarouilly. "Palais et Chateaux," by Sauvageot. "Motifs Historiques, by César Daly.

To which may be added Fergusson's

STYLE.

"History of Architecture." This list omits Arabian, Persian, Indian, Chinese and Japanese arts, because they form a separate study, having had but little influence on European art, and being conceived by people of distinctly different habit of mind, training and traditions.

The above list is not of course a complete one, but probably any one who carefully consults the works named therein will learn enough to discriminate between the different periods. In the pursuit of this study the designer will do well to remember a saying of Viollet-le-Duc, who though one of the most devoted admirers of the arts of the Middle Ages, admitted that "even if all the monuments of the Middle Ages were perfect, they should nevertheless not be copied," and apply this rule to all the styles.

In regard to the representation of a design, it may be studied in a variety of ways by sketches or models of different kinds. This consideration is not the most important, nor would it be advisable to lay down a general rule for all cases. The following suggestions apply to designs of architecture, furniture, ornaments, etc. They are appended for the use of those who look for precise directions in their work.

The beginner will do well to write How to begin a down answers to the list of questions propounded in the programme (page 8). This will necessitate a thoughtful consideration of all the conditions affecting or likely to affect the object to be composed.

This done, he should collect the ideas he has formed in a small and

rough sketch. Then he should draw another, in which he will improve on the general proportioning of the several masses, and so on until he has made a drawing which really satisfies his conception of the subject.

It is important that he should make these sketches as small as possmall sketches, sible, so as to judge of the design as a whole, which is difficult to do when the drawing exceeds the bounds which the eye can take in conveniently, when near the drawing. It is, moreover, much more difficult to alter or modify large drawings than small ones.

When a fairly satisfactory result has been obtained, and it may be well to note that the designer should not be too readily satisfied with his work, the next step is to draw it out to scale. A scale of a sixteenth of an

inch to the foot is usually quite large enough in designing objects of everyday use.

It is not unlikely that the designer will find that certain dimensions already fixed by circumstances or by the nature of the work will prevent his carrying out the sketch exactly in the scale drawing. Hence arises the necessity of remodeling the design on these more certain data. Until the small scale drawing has been perfected, it is a waste of time to attempt to enlarge it, though this is not an uncommon practice among students. An enlarged view should first be drawn out completely in plain pencil, and no shadows or colour put in until this be done.

A design may be represented in perspective or geometrical drawing.

If anything like exactness is required, Geometrical the latter is the only satisfactory

method, and will call for views of the object taken from different points, in order to accurately delineate its various dimensions.

A plan, elevation and section will generally furnish all required measurements. They should be begun in the order named and worked out in outline, the details being filled in, simultaneously, in all three.

It is much better to do this work in pencil, which can be easily rubbed out, and not ink in, shade or colour any of the drawing until it is absolutely certain that the pencil drawings are correct in every particular.

The necessity for preliminary inquiry and thought in order to grasp the meaning of what is required in a design, the examination of the subject in all its aspects, before putting pencil to paper, cannot be too strongly dwelt upon.

A lengthy programme can be drawn up for the simplest object. For example, how much preliminary consideration may be bestowed upon a design for a teapot? The determination of size and weight, the handle made of a non-conductive material, or arranged so that the heat is cut off by the interposition of some non-conductive substance. and placed so that it may counterbalance the bowl; the spout long enough not to spill the tea if the pot is filled; the lid arranged so that it will not fall into the cup; a rim or legs provided to prevent the heat marking the table. Then the selection of material (the lid can be hinged if it be made of metal, it must be arranged differently for china), the process of manufacture, the proportioning of the whole and each part, finally the decoration.

This being true of such an unimportant object, how infinitely difficult would appear the task of considering the requirements of a great public building! Nevertheless, a designer who goes to work logically and thoughtfully need not fear the magnitude of the undertaking. The difficulties are often those of his own making in attempting novel effects instead of accepting the course which is pointed out by the necessities of each case.

Novelty not always essential

This constant aiming at novelty results in brief fashions in art, instead of permanent excellence. None of the great artists tried to be particularly original. Phidias, Michael Angelo, studied such good works as were within their reach, and continued to work in the spirit of truth and nobility which they found in them. Van Eyck might be considered

